**Ouantitative** OECD case study title (submitter) Purpose Reference evaluation? Data inputs DPRA, h-CLAT, KeratinoSens<sup>TM</sup>, Hazard ID An AOP-based "2 out of 3" Integrated Urbisch et al. (2015) Yes U-SENS<sup>TM</sup> Testing Strategy Approach to Skin Hazard Identification (BASF) DPRA, h-CLAT, KeratinoSens<sup>TM</sup>, HaCaT Sequential Testing Strategy (STS) for Hazard Hazard ID van der Veen et al. (2014) No Identification of Skin Sensitisers (RIVM) gene signature, MultiCASE, CAESAR, DEREK, OECD QSAR toolbox A non-testing pipeline approach for skin Hazard ID Existing data, protein binding profile, Patlewicz et al. (2014) No sensitisation (DuPont/G. Patlewicz) physicochemical properties, TIMES-SS, expert judgment DPRA, KeratinoSens<sup>TM</sup>, U-SENS<sup>TM</sup>, Hazard ID Del Bufalo et al. (2018) Stacking Meta-model for Skin Sensitisation No TIMES-SS, ToxTree, volatility, pH Hazard Identification (L'Oréal) Integrated decision strategy for skin sensi-Hazard ID DPRA, h-CLAT, KeratinoSens<sup>TM</sup>, OECD Strickland et al. (2016) Yes QSAR Toolbox, physicochemical tisation hazard (ICCVAM) properties Consensus of Classification Trees for Skin Hazard ID TIMES-SS, DRAGON descriptors Asturiol et al. (2016) No Sensitisation Hazard Prediction (EC-JRC) Sensitizer Potency Prediction Based on Key Cor1C420 (kinetic peptide reactivity), Natsch et al. (2015) Potency No KeratinoSens<sup>TM</sup>, TIMES-SS Event 1+2: Combination of Kinetic (continuous) Peptide Reactivity Data and KeratinoSens® Data (Givaudan) The Artificial Neural Network Model for Potency class/EC3 DPRA, h-CLAT, ARE (or Hirota et al. (2015) Yes KeratinoSens<sup>TM</sup>) Predicting LLNA EC3 (Shiseido) DPRA, h-CLAT, KeratinoSens<sup>TM</sup>, Jaworska et al. (2015) Bayesian Network DIP (BN-ITS-3) for Hazard Potency class Yes and Potency Identification of Skin TIMES-SS, bioavailability (solubility Sensitizers (P&G) at pH 7, log D at pH 7, plasma protein binding, fraction ionized) Sequential Testing Strategy (STS) for Potency class DPRA, h-CLAT Takenouchi et al. (2015) Yes Sensitising Potency Classification Based on in Chemico and In Vitro Data (Kao) ITS for Sensitising Potency Classification Potency class DPRA, h-CLAT, DEREK Takenouchi et al. (2015) Yes Based on In Silico, In Chemico, and In Vitro Data (Kao) Data Interpretation Procedure for Skin Sensitization Bioavailability, skin protein kinetics, MacKay et al. (2013) No Allergy Risk Assessment (SARA) probability ordinary differential equation

model

Table 1. Twelve defined and/or integrated approaches to testing and assessment for assessing skin sensitization potential.

(Unilever)